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INTRODUCTION . . .

Bald eagles, our national emblem since 1782, symbolize the historical struggle of the United States. However, this great bird, which stands for the strength and freedom of America, is in need of help if it is to survive. Over the years, bald eagle populations have decreased drastically. The birds have suffered loss of habitat, been shot and exposed to widespread use of insecticides.

A bald eagle emblazens the Great Seal of the United States. An olive branch and bunch of arrows in the eagle's talons denotes strength in peace and war. A streamer in its beak bears our motto E PLURIBUS UNUM: "Out of many, one." The Great Seal, a symbol of our nationhood is used on one-dollar bills, military caps and buttons, medals, and monuments.

There are two subspecies of bald eagles — the northern and the southern. The northern subspecies ranges predominantly along the northwest coast from Washington to the Aleutian Islands. They also inhabit parts of interior Alaska, Canada, the Mississippi Valley, the Great Lakes Region, and are found as far east as the coast of Maine. The southern bald eagles' breeding range is basically along the southeastern coast of the United States.

These bald eagles that once flourished all over the United States, are becoming rare. In 1967, southern bald eagles were placed on the endangered species list. The northern bald eagles have a present status of "undetermined." They are currently being evaluated to determine whether they too should be designated as an endangered species.

Between 1917 and 1952, a bounty system in Alaska took a heavy toll of bald eagles. An estimated 100,000 bald eagles were killed during this period. Fisherman believed that eagles competed with them for salmon, but this was found to be largely false.

In 1940 Congress passed the National Bald Eagle Act to ensure the birds' survival. The act prohibits any killing of the birds and protects their habitat. However, not enough has been done to insure the eagles' safety.

Growing human populations and works of man remain the eagles' principal enemy. As we continue to build cities, airports, factories, highways and seaside resorts, we continue to destroy eagles' natural habitat. We pollute waterways, killing fish — their basic food supply. Some eagles are shot by individuals who have mistaken the bird for some other species or who mistakenly believe that bald eagles are a threat to sheep, chickens, fur-bearing animals or wildfowl. Persistent forms of pesticides such as DDT, which affect the bird's reproductive system, have been a major factor in the decline of the bald eagle.

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eagles' population and may eventually affect reproduction of northern bald eagles.

National wildlife refuges and some private sanctuaries have been established to protect vital nesting areas. But more could be done on behalf of all Americans to help protect this precious bird. Large land tracts around nests near waterways could be set aside for habitat protection. Many individuals and organizations who own land could reserve trees and space as sanctuaries. And we can all learn to gain a greater knowledge of and appreciation for this bird that represents the spirit of our nation.



THE SEAL (1902)

BALD EAGLES OF WOLF LODGE BAY

The onslaught of winter in Montana and the Canadian north country brings many changes to the northern bald eagles' habitat. The deep snows, sub-zero temperatures and lack of food create a need for the eagles to migrate southward. Each fall the birds leave their summer nesting areas in the North and migrate southward to milder climates where they spend the winter months.

Existing in life-mated pairs in their northern nesting areas, the eagles remain rather aloof from other pairs, raising their young and feeding on fish caught from nearby waters. However, as the eagles migrate, their solitary behavior changes to one of group living as they congregate at their wintering grounds. These areas usually contain abundant supplies of salmon.

Usually beginning in late November, migrant populations of these eagles inhabit the Wolf Lodge Bay area at Lake Coeur d'Alene in north Idaho. This area is located where kokanee salmon have spawned and died, thus creating an abundant winter food supply for the eagles. During their stay, the eagles feed primarily on the spawned-out kokanee salmon and supplement their diets with waterfowl as the salmon supply dwindles.

The majority of the wintering population departs for unknown destinations by the end of January. By mid-March the salmon supplies have dwindled and only a few of the bald eagles remain. No eagles are known to nest through the summer at Lake Coeur d'Alene.

To help ensure the return of the bald eagle to this important winter habitat in north Idaho, the Bureau of Land Management, U.S. Forest Service, Idaho Department of Fish and Game, and local private landowners have instituted several measures to protect this winter habitat.



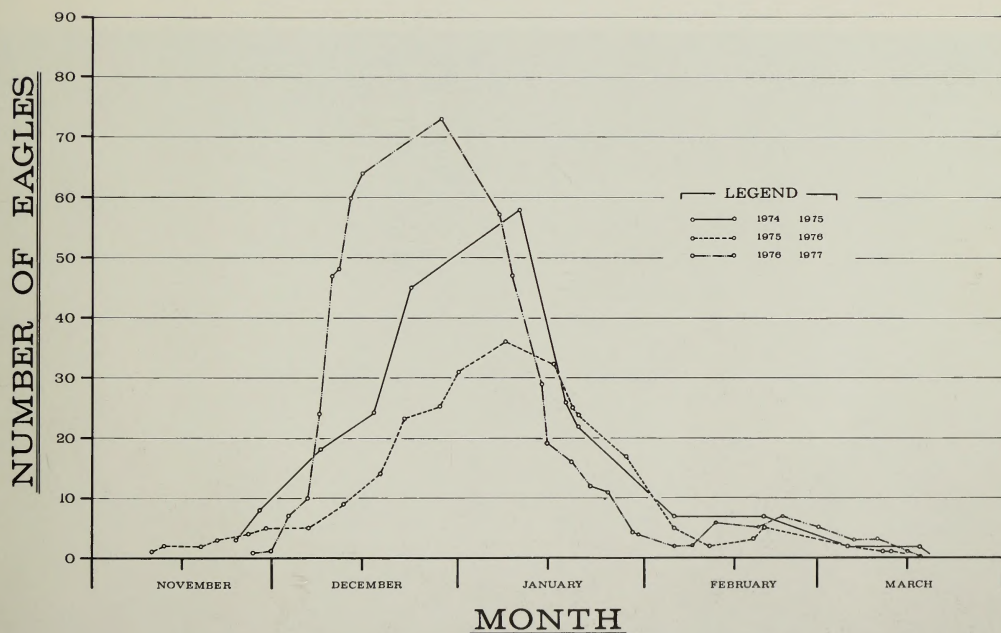
WOLF LODGE BAY AREA

The Wolf Lodge Bay arm of Lake Coeur d'Alene is extensively used by wintering bald eagles, although many portions of north Idaho also provide suitable winter habitat. Physically, it differs little from other land areas bordering waters in north Idaho; the steep slopes which rise from the water's edge are covered with mixed stands of western larch, Douglas-fir, ponderosa pine and grand fir. The rocky shores, gravel areas, and waters of the bay provide habitat for the kokanee salmon and a variety of other fish. It is this combination of rugged topography, abundant tree growth and most of all an abundant supply of salmon that draws the eagles each winter to north Idaho and, in particular, Wolf Lodge Bay.

This area does, however, differ from other eagle wintering areas in that it is quite accessible by motor vehicle. Interstate 90 borders it on the north and Idaho Route 95A winds along its east and south border.

SEASONAL MOVEMENTS

The arrival of bald eagles at Wolf Lodge Bay coincides with the advent of the spawning season of the kokanee salmon. Past observations have shown that the number of eagles present from year to year varies between 40 and 70. The population levels are directly dependent upon the number of dead, spawned-out kokanee salmon available for the eagles. The graph below shows the seasonal fluctuations of the eagle population.



The eagles begin to congregate in late November, increase in number through December and reach a peak during the first week of January. By the third week in January most eagles have dispersed, leaving only a few in the area through February. The last of the birds depart by mid-March for their eventual return to their traditional nesting sites.

DAILY ACTIVITIES AND MOVEMENT PATTERNS

During December and January the eagles are frequently observed and photographed by the public. Many an observer has watched as the eagles circle the water or peer down at him from a rugged limb on a larch snag. A close look at these birds' activities reveals that their daily hours are composed of such activities as feeding, perching, soaring, and roosting. Studies of these activities indicate the complexity and magnificence of the bald eagles' behavioral patterns and their role in the delicate balance of nature.





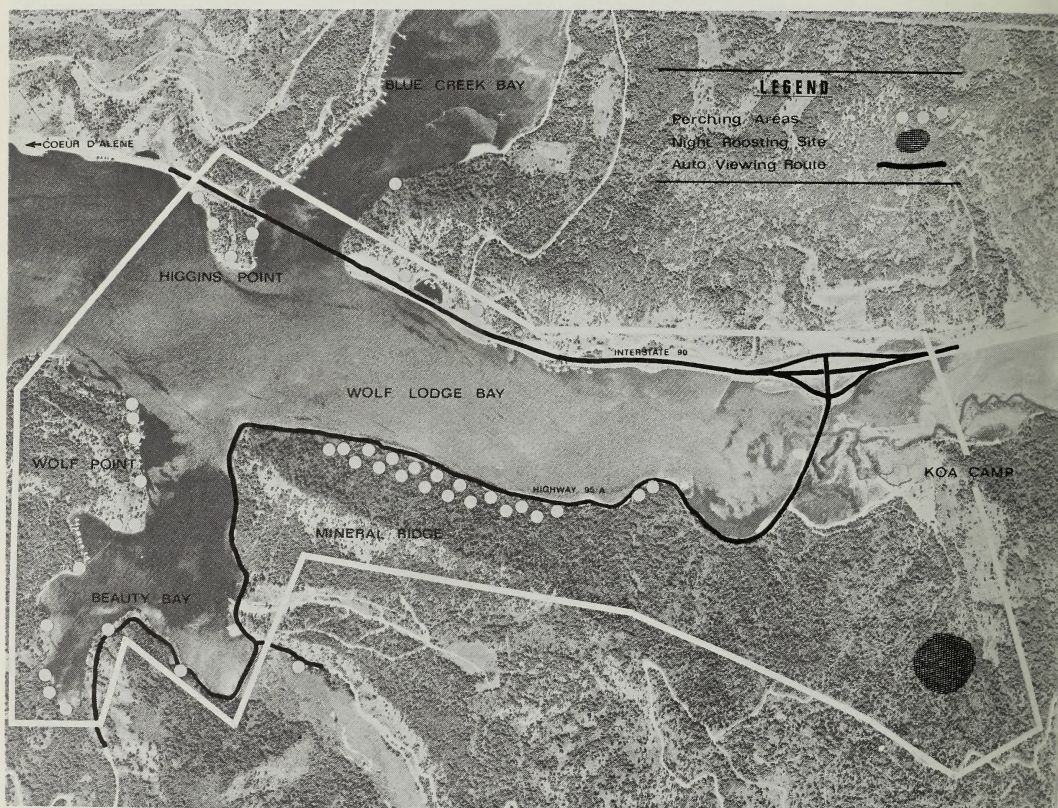
Feeding

Scientists believe that the spawned-out kokanee salmon are the reason for the bald eagle concentration at Wolf Lodge Bay. Kokanee salmon were introduced into Lake Coeur d'Alene in 1937, and have established a viable breeding population. These salmon mature in about four years and reach a length of 12 inches. Their four year life cycle in the lake ends in November as the females spawn (lay eggs) and the males fertilize the eggs. After spawning, the fish die, creating an abundant source of food for the eagles.

The eagles feed daily on these fish. Most of the eagles' fishing efforts take place during the early morning hours, although feeding may take place throughout the day. Dawn finds the eagles arriving at the fishing area from their night roost. As they arrive, they position themselves on perches in trees near the water's edge. From these vantage points, they scan the water in search of dead or dying salmon. Upon sighting their prey, the eagles glide from their perches, circle above the floating salmon, and in a descending spiral motion, snatch the fish from the water. With the salmon grasped firmly in their talons, they return to nearby perches to feed.

For eagles that arrive in the fall before the salmon have begun to spawn or eagles that remain in the area through February and March when the salmon supply has diminished, there must be an alternative food source. The alternative food is provided by ducks which also inhabit the bay. Pellets made of indigestible duck feathers that have been regurgitated by the eagles prove that eagles have fed on the ducks. These pellets can often be found under various perch trees. Because fish are easily digested by eagles, pellets are not normally found when the birds are feeding entirely on salmon.

The impact of this feeding behavior on the waterfowl population is negligible, since those individuals which are killed are usually sick or injured ducks that would die anyway.



Perching and Soaring

As mid-morning approaches, the eagles limit the feeding activity and settle down on a perch to spend the remaining daylight hours. The preferred trees are generally tall, open-branched and close to water. The map indicates the more concentrated perching areas and the automobile route to use when viewing these areas. If the weather conditions are inclement or overcast with negligible air movement, the eagles are likely to spend the daylight hours perched on the branch of a favorite conifer.

On sunny or windy days the eagles will take advantage of the thermal currents and updrafts and soar high above the bay area. The exact function of soaring during these periods is not known.



Roosting

As dusk approaches, a remarkable occurrence can be witnessed. The eagles leave their perches, circle over the bay several times to gain altitude and fly eastward to their night roosts. The flight totals 1.5 miles to a five acre timbered draw just south of Wolf Lodge Bay



KOA Campground. Within this area, the larger western white pine and western larch trees provide the night roosting sites. Since the majority of the eagles in the bay area use this roosting area, it is termed a communal night roosting site. The largest number of eagles counted in the roost at any one time was 58.

It is not known why the eagles gather in such a fashion or why they single out a particular place to roost. It may be that this particular area provides some factor of security or captures the first warming rays of the morning sun. Some scientists believe the night roost may be a center for the exchange of information regarding feeding sites. Whatever the utility of the roost, it remains an interesting facet of their daily winter activities.

RELATIONSHIPS WITH OTHER BIRDS

Besides using ducks as a supplemental food source, the eagles occasionally use merganser ducks as a fishing fleet. As the ducks dive to capture fish, the eagles sit on perches nearby. When the mergansers pop to the surface with a fish, the eagles attempt to steal the fish. Occasionally they succeed. The eagles usually rely on this method only when spawned-out salmon are scarce.

Perhaps most important is the relationship that occurs between the eagles and the crows and ravens. Inspections of the ground beneath the perch trees where the eagles feed has revealed partially eaten salmon. What may appear as wasted food is actually an important food source for the crows and ravens.

These birds are not adapted to securing fish from the water as are eagles. However, they have been conditioned to seek out the perch trees and scavenge scraps of fish left by the eagles. With this relationship we see further evidence of the critical balance of nature which enables these wildlife species to survive.

PHYSICAL FEATURES OF BALD EAGLES

The majority of the eagles are adults, but you may see several dark, mottled, juvenile bald eagles that will not obtain the brilliant white head and tail feathers until they are about five years of age. Mature bald eagles are the second largest raptor species in the United States, weighing between 12 and 14 pounds. They have a wingspan of six to seven feet and a body length of about three feet.



As the eagles circle over the water, their eyes, which are eight times more powerful than humans', enable them to easily detect the floating fish. Their two inch talons or claws easily sink into the flesh of their prey. As the eagles settle down to feed, you may notice the adeptness with which they use their hooked beaks to rip the flesh from the fish.



THREATS TO EAGLES' WINTER HABITAT

By far the greatest threat to the eagles' habitat is posed by man. There are regulations which prohibit the harassment and disturbance of eagles by humans. However, these regulations do not always prevent man from destroying the eagles' vitally important habitat.



Of utmost importance to the eagles' future well-being is the continued, unaltered spawning of kokanee salmon along the shores and in feeder streams of the bay. Without the large numbers of spawned-out kokanee, the large concentration of eagles at the bay would not exist.

The possibility of land development and road improvement projects in the area also threaten the eagles. Fortunately, past efforts to rezone some privately owned, restricted residential land in the area to commercial status have not succeeded. Should this ever occur, the effects could be far reaching. The rezoning would open the area for the proposed development of a hotel, marina, and restaurant complex in the southeast end of Wolf Lodge Bay. It might be possible that the eagles would adapt to the changes, or they may not.

Although the chances are remote, should the need for large scale improvements of State Route 95A arise, pressure would once again threaten the eagles' winter existence. Improvements might require widening the road, which would diminish shoreline salmon spawning habitat and preferred perching trees. Such losses could cause the eagles to abandon the area.



Unfortunately, scientists can't predict the eagles' reactions. Observations at Wolf Lodge Bay have shown a remarkable tolerance to man and his activities. But the extent of the eagles' tolerance is not known. It is, therefore, important to preserve this area as a wintering area for migratory bald eagles.



PROTECTIVE MANAGEMENT MEASURES

The Bureau of Land Management has prepared an eagle habitat management plan for its land on Mineral Ridge and the adjacent private, state and federal lands. Currently this plan calls only for the maintenance of the habitat as it presently exists and continuance of the annual census of the population. Should future monitoring indicate a need for additional management action, the needs would be investigated and necessary action would be taken.

The night roosting site, which is on National Forest Land, has been recognized in a Letter of Understanding between the Bureau of Land Management and the U.S. Forest Service which calls for the preservation of the area.

Management plans and agreements can only partly assure the eagles' return each winter. The public must do the rest to insure the preservation of the eagles' habitat and to prevent further shooting of the birds. The protection of the eagles' habitat in north Idaho and nationwide will enable future generations to also enjoy bald eagles.



ADDITIONAL READING

Information on the life history, reproduction, and habitat requirements of the bald eagle is presented in Report No. 5 of the Habitat Management Series for Endangered Species by Carol Snow. This publication is available from the Bureau of Land Management, Denver Service Center, Building 50, Denver, Colorado 80225.

A more in-depth review of the bald eagles' winter activity at Wolf Lodge Bay is presented in a report on The Bald Eagles of Wolf Lodge Bay by Joseph Lint. This booklet is available from the Bureau of Land Management, Coeur d'Alene District, 1808 N. 3rd Street, Coeur d'Alene, Idaho 83814.

The bibliographies of these two publications will provide additional in-depth reading references for those who wish to gain additional knowledge on the bald eagle.

PHOTO CREDITS

FRONT COVER: Photo of a painting by Louis Agassiz Fierst, Courtesy of the U.S. Fish and Wildlife Service; INSIDE FRONT COVER & PAGE 6: Courtesy of the U.S. Forest Service; PAGE 12: Photo of a painting by Sylvia Bieneck, Courtesy of the Public Affairs Bureau, Government of Alberta, Canada; PAGES 4, 7, 8, 9, 10, 15, 16, 17: Bureau of Land Management Photos.

NOTES

HABITAT MANAGEMENT

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally-owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests for all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under United States' administration.

The Bureau of Land Management, an agency of the Department of the Interior, is charged with the multiple-use administration of programs for conservation and development of public lands and resources. Practically all Public Lands, more than 12 million acres in Idaho, provide homes for wildlife. In fact, these lands are the last habitat for many species including some that are in danger of extinction. The Bureau's role in wildlife management has traditionally been to manage habitat, while leaving to State game and fish agencies the management of wildlife populations and the regulation of sport hunting.

The Public Lands near Wolf Lodge Bay on Lake Coeur d'Alene in northern Idaho provide vital habitat for bald eagles. The surrounding lake provides ideal hunting ground for these birds while the tall timber offers hunting platforms and perches.

Suitable habitat, of course, is the key to wildlife production. The protection and development of wildlife habitat is a vital part of the Bureau of Land Management's multiple-use mission.

In Idaho, the BLM State Office is located in Boise. There are six districts with offices in Boise, Burley, Idaho Falls, Salmon, Shoshone, and Coeur d'Alene.

BUREAU OF LAND MANAGEMENT
COEUR D'ALENE DISTRICT
AUGUST 1977

